

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/022707 A3

(51) International Patent Classification⁷: **C12N 15/11**,
15/82, 15/87, 5/14, A01H 5/00, 4/00

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(21) International Application Number:
PCT/US2003/027565

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(22) International Filing Date:
3 September 2003 (03.09.2003)

(81) Designated State (*national*): US.

(25) Filing Language: English

(84) Designated States (*regional*): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(30) Priority Data:
60/408,142 3 September 2002 (03.09.2002) US

Published:
— with international search report

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(88) Date of publication of the international search report:
10 September 2004

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/022707 A3

(54) Title: METHOD AND COMPOSITIONS FOR TRANSFORMATION AND REGENERATION OF MAIZE

(57) Abstract: Methods for transforming plants, particularly commercially important elite maize inbreds, are provided. The methods involve transformation of meristematic organogenic tissue or immature embryos, and include the use of defined plant growth media. The methods disclosed provide more stable transgenic plants, and permit the transformation of varieties of cereals that are not amenable to transformation by conventional approaches.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/27565

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12N 15/11, 82, 87; C12N 5/14; A01H 5/00, 4/00.
US CL : 435/412, 419, 424, 430, 431; 536/23.1; 800/278, 298, 320.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 435/412, 419, 424, 430, 431; 536/23.1; 800/278, 298, 320.01

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
West, STN

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ZHANG, et. al. Transformation of recalcitrant maize elite inbreds using in vitro shoot meristematic cultures induced from germinated seedlings. Plant Cell Reports. 2002, Vol. 21, pages 263-270, see entire document.	1-21
Y	ZHANG, et. al. Genetic transformation of commercial cultivars of oat (<i>Avena sativa L.</i>) and barley (<i>Hordeum vulgare L.</i>) using in vitro shoot meristematic cultures derived from germinated seedlings. Plant Cell Reports. 1999, Vol. 18, pages 959-966, see entire document.	1-21
Y	DONCHEVA, J. Ultrastructural localization of Ag-NOR proteins in root meristem cells after copper treatment. J. Plant. Physiol. 1997, Vol. 151, pages 242-245, see entire document.	1-21
Y	DONCHEVA, et. al. Effect of copper excess on the morphology of the nucleus in maize root meristem cells. Physiologia Plantarum, 1996, Vol. 96, No. 1, pages 118-122, see entire document.	1-21
Y	US 6,235,529 B1 (LEMAUX, et. al.) 22 May 2001 (22.05.2001), entire document.	1-21

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"B" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

08 March 2004 (08.03.2004)

Date of mailing of the international search report

27 MAY 2004

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

PCT/US03/27565

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ABBAS, et. al. Growth and some metabolic activities of maize plants in response to copper pollution, J. Environmental Sciences. 1993, Vol. 6, pages 145-158, see entire document.	1-21
Y	US 6,162,900 (GUERINOT, et. al.) 19 December 2000 (19.12.2000), entire document.	1-21
Y	US 4,003,156 (SIBI, et. al.) 18 January 1977 (18.01.1977). entire document.	1-21